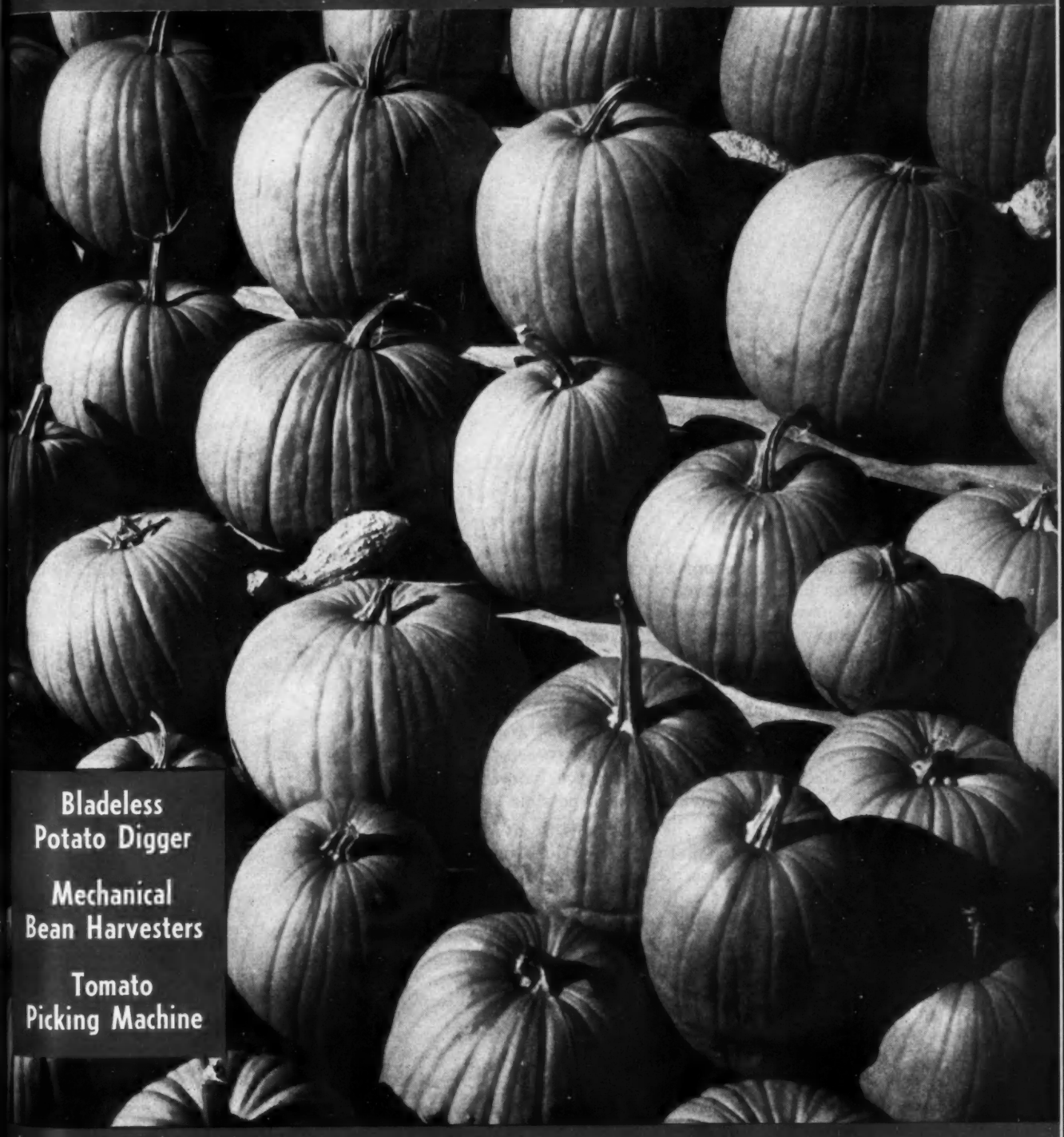
American Vegetable Grower

OCTOBER • 1956



Bladeless Potato Digger

Mechanical Bean Harvesters

Tomato Picking Machine

Mechanization Issue

AMERICAN

VEGETABLE GROWER

REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 4 October, 1956 No. 10

FEATURED IN THIS ISSUE

Cover photograph of pumpkins is by Gustav Anderson from A. Devaney, N.Y.

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LETTERS TO THE EDITOR

Pickle Picking Machine

Dear Editor:

We would appreciate very much getting one or two copies of the June issue of your magazine containing the description of the pickle picking machine mentioned in the National Pickle Packers publication.

Oconto, Wis. L. H. Bond
Bond Pickle Co., Inc.

Two copies of the June issue were mailed today with our compliments.—Ed.

Growing Potential

Dear Editor:

I enjoy your magazine very much and think the articles are fine. However, I do have one suggestion or rather request to make. You write about various growing areas and their produce and the "know-how" of growing that particular product. This is fine but I think it would also be a good idea to write about the potential in that area or state. Give the grower something new to think about. Every grower is interested in trying something new in an experimental way along with his regular crops, and even if he doesn't try it himself, he is interested in knowing the potential of his land.

Keep up the good magazine you now publish and if possible, try this idea.

Hammonton, N.J. Joe Scallioni

The Green Calyx

Dear Editor:

A few years ago I bought a new brand of prepackaged greenhouse tomatoes in the Kroger store where I frequently shop. There were six in the carton and they looked nice and ripe, with no visible bruises—although my experience with tomatoes in cartons had been so bad that I had virtually sworn off buying them. They invariably had a disagreeable off-flavor, were full of seeds, and bruised.

I was actually thrilled to find that the tomatoes in this new package tasted good. They were not bruised, they were not full of seeds, they were delicious. I noticed that they were packed with the green calyx still on them, which I had never found before on prepackaged tomatoes.

So I started looking for the six-tomato carton with the green calyx showing through the cellophane and the brand "Glass Grown" on the carton. At first I could find it only at Kroger's—and I shopped occasionally at three other chain supermarkets. Then it began appearing in other stores, and now I notice that in many of these stores, it is the only brand of prepackaged tomatoes available. Usually there is a bulk display of beautiful big greenhouse tomatoes, and these cartons of six small tomatoes. There is a difference in size, but from my experience the quality is the same.

Cleveland, Ohio Mrs. Louis Huml

A story on the Green Calyx tomatoes appeared in the August issue.—Ed.

Poke Seed Sources

Dear Editor:

In your August issue in Answering Your Questions, you give possible sources of poke seed. Guy Ketchershed, of Gravette, Ark., who has a cannery, has grown acres of poke for canning and I am sure could supply your Oklahoma correspondent with seed.

Denver, Colo. S. B. Hannon

Dear Editor:

On our farm we have a good many poke plants and I could probably gather a few seeds this fall for your Oklahoma reader or could send him several roots, if we could get together on price. Roots are hard to dig and gathering seed by hand is a slow process.

Union Mills, N.C. T. C. Harris

HANDY POWER SPRAYER

A versatile, yet inexpensive power sprayer is this Bolens outfit used at the Mississippi Truck Experiment Station, Crystal Springs. It sprays two rows at a time and is ideal for the small vegetable farm. Boom on rear is adjustable for spraying low crops such as cabbage or high crops such as sweet corn. Lightweight, it does not pack soil. Tillage bar behind front drive wheels loosens soil. Boom is detachable, so tractor can be used for other work.—E. S. Banta.

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	VB-H		5.60	5.95	7.10	7.65	8.50	10.45	12.90
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	WEIGHT PER CASE	33 lbs	38 lbs	42 lbs	51 lbs	63 lbs	37 lbs	50 lbs	33 lbs
VITA-BAND D	QUANTITY PER CASE	2M	2M	2M	2M	2M	2M	1M	1M
	WEIGHT PER CASE	18 lbs	21 lbs	23 lbs	28 lbs	34 lbs	40 lbs	27 lbs	35 lbs
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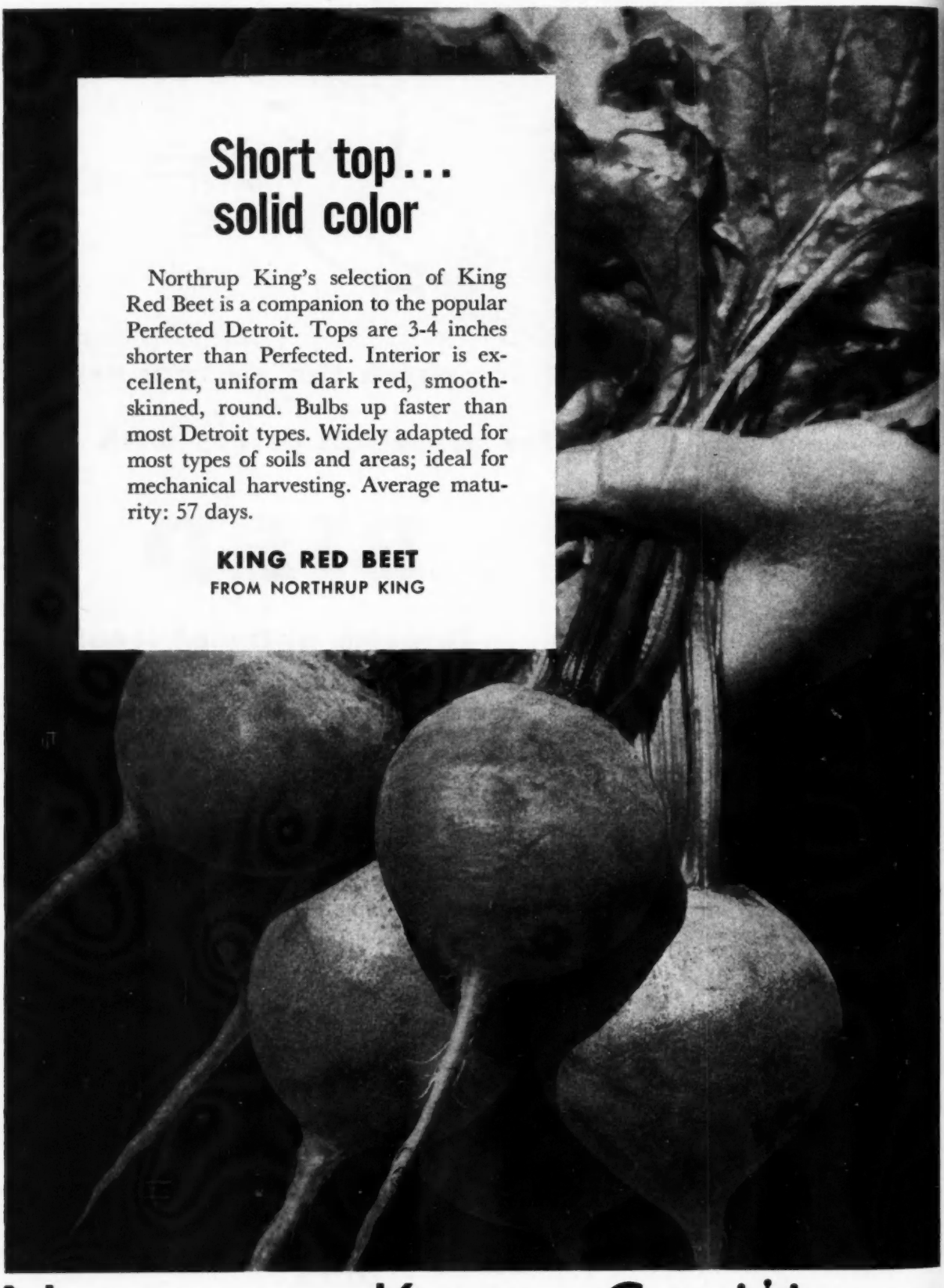


Short top... solid color

Northrup King's selection of King Red Beet is a companion to the popular Perfected Detroit. Tops are 3-4 inches shorter than Perfected. Interior is excellent, uniform dark red, smooth-skinned, round. Bulbs up faster than most Detroit types. Widely adapted for most types of soils and areas; ideal for mechanical harvesting. Average maturity: 57 days.

KING RED BEET
FROM NORTHRUP KING

NORTHRUP, KING & CO. NK® MINNEAPOLIS 13, MINNESOTA

—Photos courtesy USDA.

Above left—Bladeless potato digger in operation. A power-driven, ⅞-inch square digger rod was substituted for the conventional digger blade. Rotating slowly through the soil just below the level of the potatoes, it lifts the tubers onto the conveyor apron of the digger. *Above right*—Details of the square rod mounted in front of a double-apron digger for testing. The aprons were 29 inches in width. The rod turns approximately one revolution for each 18 inches of forward travel of the machine. Direction of the rotation is rearward, which helps it enter the ground and gives it some "suck" to make it hold its operating depth. A single-acting hydraulic cylinder was used to lift the rod and regulate the operating depth. *Bottom photo*—These are the rod weeder parts used in the machine photographed after 70 acres of use. Wear was not a problem. In the foreground are the sprocket, with square center hole, and the bearings which carry and drive the square rod.

USDA DEVELOPS A BLADELESS POTATO DIGGER

A rotating square rod is substituted for the blade

POTATO growers across the nation are showing keen interest in the new bladeless potato digger designed by A. H. Glaves, USDA research engineer, and co-workers at the Red River Valley Potato Research Center at East Grand Forks, Minn. In the new design a potato-digging, rotating rod replaces the customary digger blade on potato harvesting machinery.

Glaves used the rotating-rod mechanism from a rotary rod weeder, standard tillage and weed control implement in developing the bladeless digger.

Experimental use of this digger on 70 acres of potatoes at the East Grand Forks center has proved that:

1) It can operate successfully under soil conditions ranging from dry-cloddy to wet-sticky. It has even been operated with water standing between the potato ridges.

2) It digs potatoes with a mini-

(*Continued on page* 17)

Tom Pottenger applies a side-dressing of anhydrous ammonia to sweet corn at the rate of 90 pounds per acre. Usually done just after planting, here it was delayed until after the first cultivation. Tom and his father share management and operation of Century Farms.

HOW THE POTTENGERS *Grow* QUALITY SWEET CORN

These southern Ohio growers apply science to sweet corn production

By ELDON S. BANTA

ON the sandy Miami River bottoms near Harrison, Ohio, M. C. Pottenger and sons grow each year some 150 acres of sweet corn for fresh market in near-by Cincinnati. Century Farms, as the Pottenger enterprise is known, has long been famous in its area for the production of high-quality sweet corn. Success has been due largely to the application of science to farm problems.

To begin with, the Pottengers believe the first step in top sweet corn production is obtaining a high population of plants per acre, 12,000 or better. They start with good seed planted at a rate ranging from 8 to 12 pounds per acre depending upon variety. They purchase the bulk of their seeds from Joseph Harris Company, Inc., Rochester, N.Y., and F. H. Woodruff & Sons, Inc., Milford, Conn. Some is also purchased from McCullough Seed Co., Cincinnati, Ohio.

Spacing is important in obtaining the highest number of good-sized ears. The Pottengers plant in 40-inch rows and space grains 7 inches apart in the row for early varieties and 9 inches for late varieties. An accurate planter is also essential for good stands. Even though they buy graded seed, the Pottengers regrade all seed so as to have grains as uniform in size as possible. Then by selecting appropriate planter plates, more exact plantings are made and they get a better stand.

Another factor contributing to good stands at Century Farms is the use of aldrin mixed with fertilizer at planting time. The local farm bureau fertilizer plant makes up the mixture at the rate of 5 pounds of 20% aldrin per 100 pounds of fertilizer.

The Pottengers apply this mixture at the rate of 100 pounds per acre as a starter fertilizer. This makes a band application of one pound per acre of actual aldrin which has given excellent control of wireworms, grubs, cutworms, and other soil insects. Where aldrin was not used on part of a field, the stand of plants was noticeably reduced. In this year's mixture the Pottengers used a fertilizer analysis of 5-20-20.

Rotations and fertilization go together on the Pottenger farms. Barley is a cash crop on the farms and quite often this crop is used between two sweet corn crops on the same field. On others sweet corn is grown every year.

The practice has been to seed the fields to rye grass as soon as harvest has finished. In the spring the rye grass is plowed under with an application of 400 pounds per acre of 10-10-10 fertilizer.

This year this procedure is being modified somewhat by seeding the rye grass in the corn at the second

Alcoa pipe, Wade Rain couplings, and Rain Bird sprinklers on 4-foot risers carry water to Pottenger's corn. System irrigates 40 acres a week at rate of 1½ inches per application.

Sweet corn was formerly packed in field and trucked to market the same day. Now a central packing house is used, simplifying operations.

Tom Pottenger shows how to pull corn. A downward twist and quick jerk of the ear does it.

Left—Plant in left foreground is stunted from Stewart's wilt, one at right is normal. DDT spray saved early corn crop from being a total loss.

disease. Three applications are made at weekly intervals. This season the disease was present on early varieties even where sprayed. However, a small section which was not sprayed showed considerable damage from Stewart's wilt, so the DDT application paid well. One quart of DDT in 15 to 20 gallons of water was applied per acre.

Corn borer control usually requires four DDT applications of 3 quarts of DDT in 15 to 20 gallons of water per acre. First application goes on when first egg masses are found on leaves and others follow at five- to seven-day intervals.

For best control of corn earworm the Pottengers have found that they must begin spraying with DDT about a week before the first silks show, then continue with two more applications at four- to five-day intervals. They have been using a mixture of three quarts of DDT in one gallon of mineral oil, but this season may dispense with the oil since some damage has

Tom Pottenger applies first DDT spray for control of corn borers with John Bean row crop sprayer used for pest and weed control.

Second cultivation is shallow so as not to disturb corn roots. Old auto wheel is dragged through middle row to smooth ground.

and last cultivation, thus reducing the machinery and labor cost of seeding the cover crop. The fertilizer program is now based upon a careful soil analysis program.

In years past the Pottengers have given their sweet corn a side-dressing of ammonium nitrate at about 200 pounds per acre, applied soon after planting.

This year the program was altered somewhat by using anhydrous ammonia at the rate of 90 pounds per acre. Now the Pottengers are toying with the idea of applying 45% urea as a side dressing in place of ammonia. They feel that urea might release nitrogen to the growing corn crop over a longer period than either ammonia or ammonium nitrate.

Once a good stand of corn is obtained, the Pottengers follow modern cultural practices to maintain it. Fields usually receive two cultivations, with rye grass being sown at the time of the second. Weed control begins early with an application of Dow Premerge just before plants break through the ground, or slightly after. Care is taken not to apply this spray if the temperature is above 70° F., as some injury at high temperatures has been reported. Corn that is up and growing well usually receives an application of 2-4-D, this year the butyl ester, for control of such broadleafed weeds as smartweed, pigweed, and ragweed. Weed sprays eliminate the necessity for a third cultivation and make later harvesting easier on workers.

Insect and disease control are begun early. Just as the first corn shoots break through the soil the first application of DDT goes on for control of flea beetles which spread Stewart's been reported from its use in hot weather.

In efficient sweet corn production it is essential to co-ordinate planting dates and acreages with anticipated harvest and market demand. The Pottengers accomplish this goal in two ways.

First they choose a succession of varieties from early to late so as to make as long a harvest season as possible. Then a given acreage of each variety is planted at intervals throughout the season. Earliest to mature are North Star and Marcross. First planting is made between April 7 and 12, and usually consists of 10 to 15 acres of each variety. Following Marcross are Goldrush and Carmelcross, then Hoosier Gold and Golden Security. Weekly plantings of 15 to 18 acres are made from April until the first of

(*Continued on page* 19)

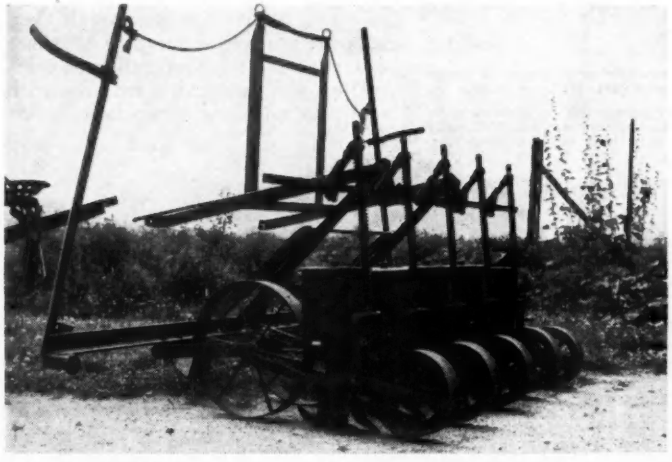
'Do It Yourself' IS JIM SMITH'S Motto

By ANDREW A. DUNCAN

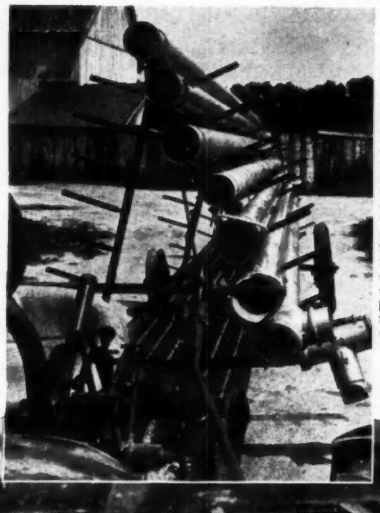
University of Maryland

JIM Smith, of Maple Shade Farm near East New Market, Md., is a "do-it-yourself" vegetable grower when it comes to farm machinery. Pictured above in a charactristic pose, Jim solves most of his machinery needs by his own inventiveness.

Shown clockwise on this page are some of the products of his farm shop: a spinach seeder, irrigation pipe carrier, rotary vegetable thinner, and spinach cultivator. Simplicity and usefulness are their outstanding features. THE END.



Jim Smith had never seen a spinach seeder nor grown any leaf crops when he contracted to grow an acreage of greens for a local processor. He mounted together five Planet, Jr. hand-operated, push-type seeders to seed the conventional 5-row bed. He was surprised to see how closely his home-made seeder resembled commercial ones.



Jim moves his irrigation pipe on this 7-deck carrier made of scrap metal mounted on a Model A Ford axle. It holds 28 pieces of 5-inch, or 40 pieces of 3-inch line 30 feet long. He irrigates his entire farm with the help of only one man. Water comes from five ponds located strategically around the farm.

This spinach cultivator was also built by Jim in his farm shop.

Right—Faced with the job of thinning 16 acres of cucumbers by hand, Jim built this rotary vegetable thinner from scrap metal. He calls it his "golf club"—and made it by welding a 4-inch-long blade to a counter-balanced rod. Skimming the surface of the soil with rapid revolutions, it is driven by a shaft extending from the front cultivator mounting to the rear of the tractor. There it is attached to the power take-off assembly by a V-belt. The entire assembly can be raised or lowered hydraulically. Jim plans to add a gear box so the speed of the rotating blade can be controlled and so he can use his "golf club" cultivator on his other seeded crops also.

Porterway mechanical harvester elevates a load of previously-cut baby lima bean vines onto a truck at Seabrook Farms, Bridgeton, N.J. It is also used during pea harvest when it cuts and elevates load simultaneously.

NOW . . . Mechanical BEAN Harvesters

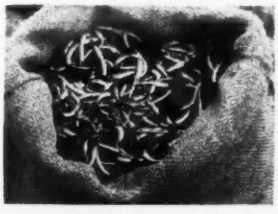
Machines speed harvesting of bush, pole, and lima beans for processing

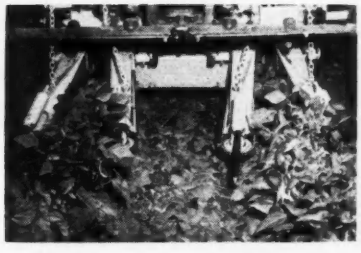
IN bean growing regions across the nation mechanical harvesting equipment is big news. Last year eleven mechanical harvesters picked a small portion of New York state's green bean crop for processing.

In the Northwest this year Blue Lake pole bean growers are experimenting with a new mechanical harvester. Many lima bean growers in New Jersey and elsewhere are using mechanical harvesting conveyors.

Shown on this page are some of the new machines in operation. As they undergo more extensive field-testing and commercial use, improvements can be expected. Also to be expected: new varieties especially suited for mechanical harvesting and, in some cases, changes in cultural methods to make for more efficient use of the harvesters. THE END.

New York grower Elmer Boekhoute uses mechanical bean harvester made by Chisholm-Ryder Co., Inc., Niagara Falls, N.Y., in a 9-acre field of Kinghorn wax beans. Machine requires two men — one on tractor, one on harvester — replaces 50 hand pickers. Note leaves and trash being blown into air. *Above right* — Bag of machine-harvested beans. Broken pods are few, bruising is slight. *Center right* — Feeder chains help guide plants into pickers. Machine was designed for 36-inch rows, picks two rows at a time. Harvester gets under beans to pick them, so growers avoid hilling. They must also plant varieties which can be picked at one time. *Below right* — Fingers on picker revolve, whipping pods to left onto conveyor which carries them to cleaner, then to bag at rear.





Right—Being tested commercially in the Northwest this year is the pole bean harvester developed by Food Machinery & Chemical Corp., San Jose, Calif., in collaboration with Pacific Northwest Blue Lake Bean Processors. Operated by one man, harvester straddles the row. A pair of pickerheads consisting of an upward-moving series of horizontal bars works simultaneously on both sides of row. Spring-loaded heads open slightly when passing the wooden center post supporting the string, snapping the beans from the vine. They fall into sled-type pan at the bottom of the harvester and are sucked into the hopper by a vacuum device. When harvester reaches end of row, beans are dumped into boxes.

STATE NEWS

- **Southwestern Michigan growers form marketing association**
- **California sweetpotato growers frown over marketing report**

Marketing Association Formed

MICHIGAN—Vegetable growers in the South Haven area, like those in the Capac area, have decided that they are no longer able to do a satisfactory job of marketing and growing at the same time, and have formed the Southwestern Michigan Vegetable Growers Association, a marketing corporation.

The association has rented a building in Bangor and hired a salesman, will handle mainly cauliflower, cucumbers, and peppers. —*G. M. Kessler, Dept. of Hort., E. Lansing.*

Sweetpotato Marketing

CALIFORNIA—A report prepared by Ralph G. Rush and J. Ian Stewart, of the University of California, on the marketing of California sweetpotatoes in the Portland-Seattle area in 1956, is causing concern among growers. Don Schroder, chairman of the California Farm Bureau Federation's sweetpotato section, has warned them to take heed.

The report states that California sweetpotatoes in this market lack uniformity of quality and grade, and that wholesale storage was most unsatisfactory, with many wholesalers not aware of the storage temperature requirements.

Retail shelf quality ranged from good in a few stores to fair and poor in many stores. Over-all appearance was often poor. Prepackaging was rare.

Copies of the full report are available from the University of California Extension Service, Berkeley. Copies of the recommendations to the industry may be obtained from the California Farm Bureau Federation Yam and Sweet Potato Section, 2223 Fulton St., Berkeley.—*Irma Walter.*

This year's shipments of fresh and frozen asparagus set an all-time record with the marketing of 1½ million crates of the fresh product and 14½ million pounds of the frozen.

E. C. Portman, secretary of the California Asparagus Advisory Boards, declared the fresh shipment figure was 482,718 crates more than 1955, and frozen asparagus production was up 85%. White asparagus filled almost 2 million can cases.—*Neale Leslie*

New Wholesale Market

MASSACHUSETTS—Worcester County growers will be trucking their produce to a new multi-million dollar Wholesale Center in September, when the first of 14 units in the project is scheduled to be completed. The 40-acre market is located near the city limits of Worcester.

"Go ahead" on the project came four months after the Chamber of Commerce industrial bureau received requests for help from a group of wholesalers being evicted by state and city land takings in downtown Worcester.

Frederick E. Cole, extension specialist of fruits and vegetables at the University of Massachusetts, and USDA experts co-

Crowned Watermelon Queen of the World before a crowd of 2,000 at the 6th annual Watermelon Carnival at Pageland, S.C., was Sybil Gaddy (center) of Latta, S.C. Barbara Edwards (left), of Winston-Salem, N.C., was runner-up, and Janice Suber (right), of Holly Hill, S.C., was third-place winner. The annual carnival marked the beginning of the watermelon season for growers from the Sandhills section of North and South Carolina.

operated in developing the project, plans for which were based on the know-how accumulated from 44 similar wholesale centers throughout the nation.

The ultimate aim of the center is to tap Boston's rail-supply line from West and South and capture for Worcester the role of wholesale distribution point for central New England.—*William R. Goss, Worcester County Agent.*

Open House

NEW YORK—Samples of a new early market tomato were shown at the New York State College of Agriculture's recent "vegetable crops open house." Tests indicate, according to Prof. Henry Munger, head of the vegetable crops department, that "we may have a better first-early tomato than the varieties now being used."

Munger also displayed a red kidney bean resistant to halo blight. This is significant because New York growers now have to buy Western seed to avoid this disease.

"Growin'est Watermelon Season

DELAWARE—Eugene Brasher, head of the University of Delaware horticultural department, reports an excellent watermelon season in spite of a cold spring at

(*Continued on page* 16)

Know Your . . . VEGETABLE SEEDS

By VICTOR R. BOSWELL
U.S. Department of Agriculture

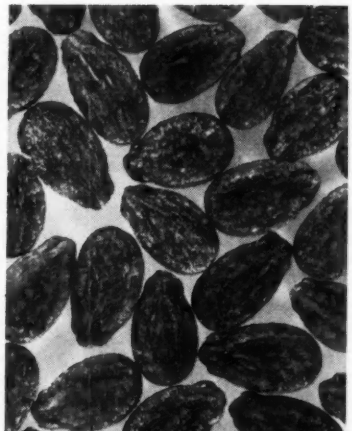
WATERMELON

NO dependable data are available on acreage and production of watermelon seed in this country. Some 1500 to 2000 acres and 400,000 pounds of seed are required to supply the annual needs of commercial watermelon growers. An acre of good watermelons for seed should produce enough to plant 200 acres or more.

Excellent watermelon seed crops are grown in both the irrigated districts of the semi-arid West and in the humid South and Southeast.

Watermelon seed is very easily recovered from the ripe fruits. Recovery is so easy that many growers are tempted to save seed from melons that have been grown from impure stock or insufficient isolation to prevent crossing with other varieties of watermelon or citron. It is no less important to be sure of the source in buying watermelon seed than in buying any other seed.

Only a few years ago "seedless watermelon seed" was in the same category as the left-handed monkey wrench. Today, seedless watermelon seed is available in small quantities but at prices that are necessarily high. Originally developed by Japanese scientists, such seed is produced by pollinating a colchicine-induced tetraploid plant (having twice the normal number of chromosomes) with pollen from a normal diploid plant. Thus the seed is a special kind of F_1 hybrid seed—special because it is triploid.



Triploid watermelon seed can produce plants that grow well but the flowers they produce are highly sterile. Pollination of the flowers of these triploid plants with normal pollen will stimulate fruit development but the normal fertilization of the ovules cannot occur; therefore the seeds cannot develop and the fruits are seedless.

"Parsnips and radishes aren't all. Two years ago," says Walter Ahrens, "we put butternut squash in polyethylene for the first time. We immediately had to put on more help to peel the squash to keep up with the demand . . . we sold 200% more squash with polyethylene. This has been the case every time we've gone into a new item with polyethylene." Packaging for Danville Gardens is supplied by **Dobeckmun Co.**, Cleveland, Ohio.

Sales records prove polyethylene packaging

"the best sales stimulant"

Walter Ahrens, owner of Danville Gardens, Danville, Ill., has had long experience with polyethylene. "I know nothing to equal it . . . it gives us a better looking package, permits the use of colorful advertising, encourages impulse buying, insulates the product, increases sales and is not susceptible to cracking or tearing."

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CONVENTION HIGHLIGHTS

Program for December meeting in Atlanta includes two days of educational tours

AT the 22nd annual convention of the National Junior Vegetable Growers Association to be held in Atlanta, Ga., December 9-13, the two days of educational tours should be most interesting. The tour on Monday, December 10, will be confined to the Atlanta area and will give an opportunity to visit the Cyclorama and Grant Park, the General Motors' plant, the ultra-modern potato chip processing plant of H. W. Lay and Company, and Colonial Stores Warehouse.

One of the main features of the Tuesday tour on December 11 will be "the cotton story." Most of this will be seen in the Griffin area, about 40 miles south of Atlanta. On the way to Griffin the route will pass by the State Capitol Buildings, the State Farmers' Market and through some of the historical and residential sections of Atlanta. Between Atlanta and Griffin lies the "Gone With The Wind" trail. It was in this area that much of the movie by that name was filmed.

Visit Cotton Mill

The first stop at Griffin will be at the Georgia Experiment Station. Here junior growers will see a display of cotton growing in flats and pots ranging from seed, small cotton plants, plants in bloom, those with mature bolls, and plants with the bolls open ready for harvest. Also, a plot of cotton will be left on the Station for a demonstration of both hand-picking and mechanical harvesting, a comparison of the old and the new.

The group will then move on to Orchard Hill for a tour of a modern cotton gin and seed delinting and cleaning plant. Although the ginning season will be over, the people at Orchard Hill have agreed to hold some "seed cotton" until convention time so that the group will be able to see the actual ginning process and the fiber pressed into a "bale."

After a barbecue lunch at the experiment station, the group will be divided into smaller groups to tour one of the several textile mills in the Griffin area. At the mill they will see the cotton fiber go through a complicated series of processes. First, it is thoroughly cleaned by a huge machine. Other machines comb and pull the cotton until the fibers lie smooth and parallel. The next process is that of spinning the fibers into yarn.

First place Mississippi 4-H Vegetable Judging Team from Hinds County. Left to right: Dorothy Brock, Anaita Jones, Winnie Lou Smith and Miss Mary Jane Hall, Assistant Home Agent, Coach. The team receives as a reward a free trip to the NJVGA convention in Atlanta.—Chesley Hines, Ext. Hort., State College, Miss.

After cotton is spun into yarn, the next step is the weaving room where cloth is made. Until about 1814, weaving was done at home with the hand loom. Junior growers will see how different kinds of cloth are made, including broadcloth, corduroy, turkish towels, hosiery, etc., also the bleaching and dying processes.

A high point of interest on Tuesday will be the visit to the Pomona Products Company, the world's largest processing plant for pimiento peppers. This company has expanded to also process snap beans, sweetpotatoes, field peas, turnip greens, peaches and others.

A tour of part of the Georgia Experiment Station will be possible during the lunch period. This Experiment Station is the oldest in Georgia and among the oldest in the Nation.

ASHS Studies Youth Program

The problem of trying to interest young people in horticulture received much consideration at the August 26-

A bi-monthly page for the younger generation of vegetable growers and their national organization, the National Junior Vegetable Growers Association. For information write Grant B. Snyder, French Hall, University of Massachusetts, Amherst, Mass.

29 session of the American Society for Horticultural Science meeting at the University of Connecticut. The supply of trained men and women is much below the demand in both the professional and industrial field. The consensus of opinion seems to indicate the necessity of starting with our youth in high school in order to stimulate an interest in the plant sciences.

In this regard the programs of organizations working with youth came in for much discussion in an effort to find ways and means of providing activities for youngsters who have an interest in horticultural work. The horticultural specialists spent a full session on this problem spearheaded by talks by Dr. Ray Sheldrake, of Cornell University; Prof. G. B. Snyder, of University of Massachusetts; and Prof. Baker, of Pennsylvania State University. Dr. Sheldrake outlined the very excellent program which has been organized in the state of New York which includes a co-ordinated program of 4-H and NJVGA.

Many teaching aids have been provided to assist local leaders in the Production and Marketing, Demonstration and Judging contests. Prof. Snyder outlined the basic approach of NJVGA in working with other youth organizations and in developing programs of activities for these youngsters dealing with vegetables and fruits. Prof. Baker, who is chairman of the sub-Committee on 4-H Club Work, outlined the 4-H garden program, and also discussed the plans that are underway to re-evaluate and improve the present projects in horticulture. THE END.

Triples Growth

USDA Photo

Scientists at the USDA Agricultural Research Center, Beltsville, Md., are keeping close watch on a rare and little-known substance that has doubled or tripled growth of many kinds of plants. It's called gibberellic acid, and one very light application causes remarkable acceleration of growth.

Among the vegetable plants responding to the spray were the two California Wonder pepper plants at left. They received a treatment of 1% gibberellic acid in lanolin paste, applied around the stem of each plant about 4 weeks before the picture was taken. Untreated plants at right are same age as treated plants.

Still in the testing stage, the chemical is not available commercially. A major difficulty is the scarcity of gibberellic acid, which is obtained from a fungus that has long been a disease of rice in Japan.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

AMERICAN VEGETABLE GROWER, published monthly at Willoughby, Ohio, for October 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Fruit Grower Publishing Coming, Willoughby, Ohio; Editor, R. T. Meister, Willoughby, Ohio; Managing Editor, None; Business Manager, Edward L. Meister, Willoughby, Ohio.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

American Fruit Grower Publishing Company, Willoughby, Ohio; E. G. K. Meister, Willoughby, Ohio; Elsie K. Meister, Willoughby, Ohio; Edward L. Meister, Willoughby, Ohio; R. T. Meister, Willoughby, Ohio.

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EDWARD L. MEISTER,
Business Manager

Sworn to and subscribed before me this 11th day of September, 1956.

(Seal) E. P. JEANGUENAT, Notary Public.
(My commission expires Sept. 17, 1956)

MEET YOUR VGAA CONVENTION SPEAKERS

Orville Walker

A "quickie program" for rebuilding sandy soils will be presented at the 48th annual convention of the Vegetable Growers Association of America by Orville Walker, associate county agent at Kalkaska, Mich. The Walker soil improvement program, which can be used on sandy soils anywhere, has brought back into production many abandoned farms in northern Michigan. Best-known of these is Walker's own farm, which over 1000 growers and teachers have visited to view the results of the work which he began 17 years ago. On this farm Walker and his son grow about 45 acres of certified potato seed and 35 acres of asparagus crowns.

Walker is one of a slate of top-notch speakers who will address the convention in Grand Rapids, Mich., November 28 to 30.

CALENDAR OF COMING MEETINGS AND EXHIBITS

Oct. 8-10—Texas Citrus & Vegetable Growers & Shippers, Plaza Hotel, San Antonio.—Headquarters: Austin Anson, 306 East Jackson, Harlingen.

Oct. 31-Nov. 1—Wisconsin State Potato Show sponsored by Wisconsin Potato Growers Association, Inc., Antigo. Annual meeting of association Nov. 1.—Harold R. Simons, Sec'y, Box 22, Antigo.

Nov. 1-2—Western Growers Association 31st annual convention, Sheraton-Palace Hotel, San Francisco, Calif.—Headquarters 606 S. Hill St., Los Angeles 14.

Nov. 6-7—Illinois State Vegetable Growers Convention, Southern Illinois U., Carbondale.—N. F. Oebker, 208 Vegetable Crops Bldg., U. of Illinois, Urbana.

Nov. 19-20—Ohio Pesticide Institute winter meeting, Neil House, Columbus.—J. D. Wilson, Ohio Agr'l Exp. Station, Wooster.

Nov. 28-30—Vegetable Growers Association of America, 48th annual convention, Hotel Pantlind, Grand Rapids, Mich.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., 17th and Pennsylvania Ave. N.W., Washington 6, D.C.

Dec. 4—Greenhouse section, Indiana Vegetable Growers Association meeting, Horticulture Dept., Purdue U.—F. C. Gaylord, Sec'y, Purdue U., Lafayette.

Dec. 6-7—Oregon State Horticultural Society annual meeting, Oregon State College, Corvallis.—Gordon Walker, Pres., Independence.

Dec. 13—Southern Minnesota Vegetable Growers Association annual meeting, Armory, Albert Lea.—Juel B. Nelson, Sec'y, Albert Lea.

Jan. 3-5—New York State Vegetable Growers Association and Empire State Potato Club, joint meeting, Hotel Van Curler, Schenectady.—W. B. Giddings, Sec'y, Baldwinsville.

Jan. 10-12—Northeastern Weed Control Conference, 11th annual meeting, Sheraton-McAlpin Hotel, New York City.—E. M. Rahn, Dept. of Hort., U. of Delaware, Newark.

Jan. 20-24—National Potato Chip Institute, Statler Hilton Hotel, Dallas, Tex.—Institute headquarters: 946 Hanna Bldg., Cleveland, O.

Feb. 4-6—Ohio Vegetable and Potato Growers Association, 42nd annual meeting, Netherland-Hilton Hotel, Cincinnati.—E. C. Wittmeyer, 210 Horticulture Bldg., Ohio State U., Columbus.

CONTROLLED SPECULATION

The USDA recently announced that the Commodity Exchange Commission has established limits on speculative trading and positions in onion futures.

Under the order of the commission, which became effective September 1, no person may hold or control a net long or net short speculative position of more than 100 carlots in any one onion future, or 200 carlots in all onion futures combined, on one contract market. These amounts are also fixed as the daily trading limits—the maximum which any person may buy or sell speculatively during one business day.

STATE NEWS

(*Continued from page* 12)

the Georgetown agricultural research station.

On a 200x200 foot experimental plot, the first picking yielded 250 melons with an average size of 30 pounds. They added up to 7½ tons of melons—and more were expected from later pickings. The melons were Charlestown Greys, and vines were pruned to two melons per vine.

'Grown in Idaho'

IDAHO—Consumers will know for sure, soon, whether the potatoes they're buying are really from Idaho.

The Idaho Advertising Commission has paved the way for identifying each Idaho potato with the stamp, "Grown in Idaho," and the consuming public will learn about it through an advertising campaign. The commission's advertising budget this year is the largest in its 20-year history.

Compulsory branding of containers with the statement, "Look for 'Grown in Idaho,'" is already in force but until all the state's packing facilities can be equipped with branding machines, stamping of the potatoes will not be compulsory.

Vacuum-cooling Advantages

FLORIDA—A new company, the Florida Vacuum Cooling Corporation, will build a steam-type vacuum-cooling plant at a cost of approximately $600,000. The first plant will be located in the Belle Glade area and will be in operation for the next vegetable season. The corporation looks forward to increasing its facilities in other growing areas in order to offer all Florida growers the advantages of vacuum-cooling.

Horticulture Department Change

NEW HAMPSHIRE—Prof. J. R. Hepler was honored by his co-workers at the annual University of New Hampshire extension conference in June, on the completion of more than 30 years of service.

Dr. John F. Kitchin has replaced Prof. Hepler as vegetable specialist. Dr. Kitchin came from Rutgers University where he has conducted research on the fruiting habits of tomato and nutrition work on corn, carrots, and tomatoes. At the University of New Hampshire he will handle extension vegetable work and do some teaching and research.—*Perley D. Colby, Asst. County Agr'l Agent, Milford.*

Sprout Stopper

MAINE—Growers planning to use maleic hydrazide on potatoes to prevent sprouting should apply it before top-killing, says Paul N. Mosher, extension crops specialist.

Growers who plan to sell potatoes for chipping or hold them until May or June before marketing could well use sprout inhibitors. Only that part of the crop sold after January needs to be treated.

Maleic hydrazide should be applied at the rate of 7 pounds per acre in 100 to 150 gallons of water. It does not require separate application but can be applied with regular fungicide treatment.

Late blight of potatoes was reported in Aroostook county and other potato growing areas last month and was spreading. Mosher warned that the late blight could "explode" at any time and infect large areas in the potato belt.

He advises spraying with fungicide every five days until potato tops are killed this fall. If blight gets started in a small area of a potato field, he advises hand spraying.

More than 65,000 people saw these cucumbers growing in model greenhouse at Ohio State Fair.

Fair Promotion

OHIO—A miniature aluminum greenhouse provided by Rough Brothers, greenhouse manufacturers of Cincinnati, was a highlight of the Ohio State Fair at Columbus. More than 65,000 people walked through to view tomatoes, cucumbers, and Bibb and leaf lettuce growing just as they do in a commercial greenhouse.

A massive Buckeye brand potato display also attracted much attention. The display background consisted of large photos of typical potato farms.

The exhibits were arranged by the Ohio Vegetable and Potato Growers Association, the Ohio Potato Growers Association, and the Ohio Greenhouse Vegetable Co-operative Association.—*E. C. Wittmeyer.*

Be A Prompt Picker

KENTUCKY—Dr. George Marlow, Jr., extension specialist in horticulture at the University of Kentucky, claims that vegetable growers lose money by sending overripe produce to market. Housewives will not buy such produce, but look for vegetables picked at the tender stage, when they have a fresh, delicate flavor.

Dr. Marlowe emphasized further that early picking from the vine or plant will cause more to be produced.

More Corn for Processing

OREGON—Although the green bean yield to be processed from the Willamette Valley this year may be slightly smaller, more sweet corn will be available.

The Stayton Canning Company reported a 25% increase in corn processing over last year and was planning for increased facilities.—*Harold and Lillie Larson.*

Color Waxing of Yams

LOUISIANA—Dr. Julian C. Miller, head of the horticultural research department of LSU, recently assured the sweetpotato industry of the state, that color waxing of its yam is unnecessary.

Said Dr. Miller: "The Louisiana sweetpotato has a natural brightness or sheen that potatoes from competing areas do not have. Therefore, every effort should be made to maintain this superiority in color and market acceptability. Research at LSU has shown that waxing does not help the keeping ability or even the appearance. By color waxing Louisiana yams, the shipper is automatically placing them in competition with other areas of the country which do not have the natural advantage of potatoes produced under the ideal soil type of this state."

Truckloads of produce are quickly iced at the Cedarville Marketing Association, Inc., Cedarville, N. J., by a Link-Belt 500 ice crusher-slinger. Operator (left) feeds 300-pound cakes of ice into machine, which can crush and throw 1500 pounds of ice per minute through 12-foot-long hose from which it is directed into truck.

Ice by the TRUCKLOAD!

ON a busy day the Cedarville Marketing Association, Inc. at Cedarville, N.J., ices 30 to 35 trailer trucks loaded with lettuce, cabbage, beans, and other truck crops.

Now in its 29th year, the Cedarville co-operative is the oldest market in New Jersey. Growers from the surrounding area and buyers from the chain supermarkets meet at an auction held there daily during the harvest season. Transactions are fast; packing and icing must be, too.

The latter is fast work with the use of a Series 500 ice crusher-slinger made by the Link-Belt Company.

John Nardelli, manager and market master of the Cedarville co-op, says it takes up to 730 of the 330-pound cakes of ice to handle the 30 to 35 trailer trucks which leave Cedarville daily. It takes from 1650 to 11,550 pounds of crushed ice for each truck, depending on the size of the trucks which vary from 14 to 34 feet in length. Although most of the Cedarville trucks are destined for eastern markets, some travel as far as California. THE END.

John Nardelli, co-op manager, ices a truckload of produce. The Cedarville unit can throw the ice 50 feet to reach farthest corners of truck.

DIGGER

(*Continued from page 7*)

mum of vine-clogging, even when vines are not shredded by roto-beating prior to digging.

3) It feeds potatoes freely and uniformly onto the digger or harvester apron, causing virtually no spill-out loss such as generally occurs with blade diggers in moist soil.

4) It not only digs potatoes, but picks them up from a previously-dug windrow.

5) Generally, under comparable conditions, fewer tubers were scuffed

A. H. Glaves, USDA research engineer at East Grand Forks, Minn., compares Red Pontiac potatoes dug at the same time in the same part of the same field. Digger fitted with standard blade was used for windrow above. Excessive clods mean much work for crew on indirect harvester that will move potatoes from windrow to truck. Use of new bladeless digger that he developed resulted in fewer clods (below) because of clod crushing action of rod and its shallow depth of operation.

by the rotary rod than would be cut with digger blades.

Four commercial manufacturers of potato harvesters have been active in developing and field-testing their own versions of the bladeless digger. All four have indicated their intentions of offering basically similar optional accessories in their 1956 model harvesters. In some instances change-over kits may be available.

Some growers are already making arrangements with their local shops for custom-built modifications for machines they now own. A bladeless potato digger built by Jack Basquins, Big Prairie, Ohio, was one of the highlights of the recent Eastern Ohio Potato Field Day at Smithville.

A parts list of commercially manufactured essential components may be obtained by request to the USDA Farm Machinery Section, East Grand Forks, Minn. THE END.

Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

ONION SET CARTONS

We would like to know the name and address of a manufacturer who makes a one pound onion set carton with the cellophane window.—*Montana.*

The A. George Schulz Co., 433 W. Clybourn St., Milwaukee, Wis., manufactures a 1-pound carton with a cellophane face especially designed for green-onion bulbs. (See photo in AMERICAN VEGETABLE GROWER, May, 1956, page 6.)

Or how about using a quart cup like those used for packing brussel sprouts and other vegetables. These, waxed or plain, may be purchased from the following firms: Southerland Paper, Kalamazoo, Mich.; Wayne Paper Box & Printing, W. Superior, Ft. Wayne, Ind.; and Container Corporation of America, 38 S. Dearborn St., Chicago, Ill.

STARTER SOLUTION

I am interested in obtaining the starter fertilizer 10-52-17 mentioned in your article, "How to Double Tomato Yields," but the local fertilizer people cannot supply it. Could you please advise where it can be obtained?—*California.*

Victor Chemical Works, 155 N. Wacker Dr., Chicago 6, Ill., is a basic producer and can advise you of a supplier in your area.

MELON POLLINATION

Our melons don't bear fruit although our pickles in the same garden do fine. What can we do about this?—*Ohio.*

Your problem probably is in pollination. The proportion of male flowers to female flowers in melons is greater than in cucumbers, and the cucumbers flower earlier so that the pollination problems are not the same. Prolonged rainy periods during flowering will interfere with pollination, and rainy weather interrupts bee activity. There may be a competing crop like sweet clover blossoming at the same time which is more attractive to bees and may draw them from the melon field. Also, there may not be an adequate number of beehives in the field. Growers with sizable acreages try to have about one hive to each 2 acres of melons.

REPAIRING PLASTIC GREENHOUSE

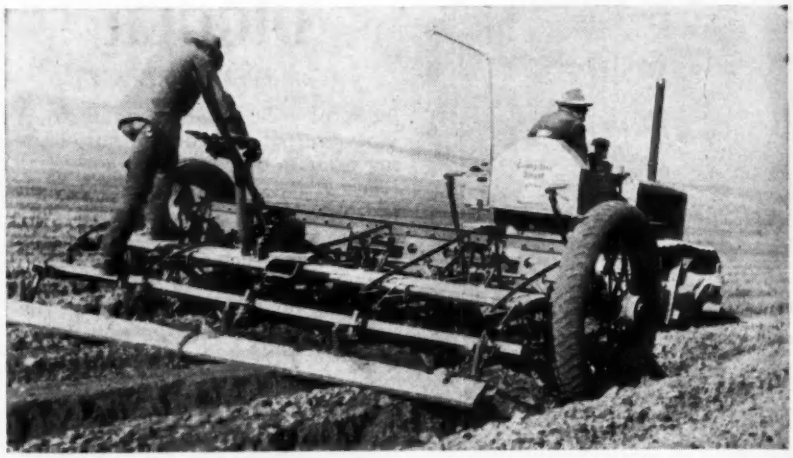
Some of the plastic material in our greenhouse has split and ripped out along the edge where it is tacked to the framing. How can we repair this?—*Missouri.*

Use a narrow piece of new plastic along the tear and pin with fivepenny box nails. If this is done right, it will hold until the season is over and it will not leak if lapped correctly. If the plastic is torn too badly, a new piece should be used over the old.

BITTER CUCUMBERS

Last winter I tried raising cucumbers in my greenhouse where I grow tomatoes. I planted two different varieties but they were all bitter, so much so that we couldn't use them. What could cause this?—*California.*

Experts at the University of California have been working on this problem but are still uncertain as to its cause. Similar complaints have come from other growers. Lack of sufficient moisture or the presence of cucumber mosaic in the vines has a tendency to cause bitter fruits but undoubtedly there are other unknown causes.



Before planting potatoes, this 4-row, saddle-type peg-tooth harrow built in the ranch shop goes over field. Pulled by a Caterpillar D4 tractor, it leaves the rows in high ridges to catch all the warmth of the winter sun so potatoes are ready for earliest market March. 1. After harrowing, seed pieces are planted by 4-row Iron Age planter, also pulled by the Cat D4.

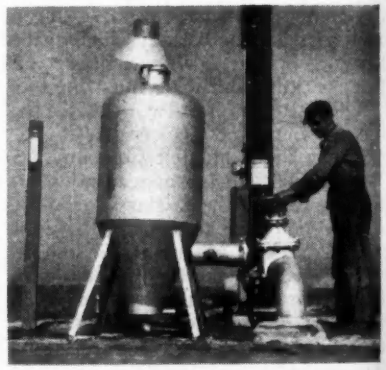
KERN COUNTY'S 'Early Bird'

Bryan Smith credits his frost-free location and mechanical helpers for his success in hitting the early market

THE Kern County ranch of Bryan Smith is equipped to get out the earliest potatoes, harvest carloads of radishes, and apply fertilizer through a 32-mile sprinkler irrigation system.

The Smith ranch is well-located for production of the earliest potatoes in the area, being in a frost-free belt 15 miles southeast of Bakersfield, Calif. Warm sun and freedom from cold winds combine to give crops an early start, and Smith takes—or makes—every opportunity to hit the March 1 early potato market.

Smith has 550 acres in potatoes this year, another 80 in onions, 100 in radishes, and 150 in tomatoes. To get around his acreage he uses a Willys Jeep. He also has nine tractors—two Caterpillar D4's and two D6's, two John Deere wheel tractors, two Allis-Chalmers rear engine G's, and a Massey-Harris 44.



Prizer applicator hooked to Smith's 32-mile PORT-ALUM sprinkler irrigation system adds metered amounts of locally-mined gypsum to the water to correct tight, alkaline soil.

Tawco radish combine harvester and topper made by Tawco Products, Inc., 1224 Chesapeake Ave., Columbus, Ohio, at work on the Smith ranch. It has replaced 30 men. Two days after an order is received, the carload of radishes is on its way—cleaned, topped, and boxed. Smith rebuilt wheels for hard California use by strengthening spokes.

Additional equipment helping him hit the early market includes a 4-row saddle-type peg-tooth harrow built in the ranch shop, and a 4-row Iron Age planter. To speed his radish harvesting he uses a Tawco radish combine harvester and topper.

Like many California growers, he applies his fertilizer in liquid form through his sprinkler irrigation system. He orders a tank truck of Agriform liquid fertilizer from the Agriform Co., Inc., Box 1707, Santa Ana, Calif. Hooked to the Carver pump at the edge of his pond, it meters out nitrogen, phosphate, and potash in the amounts needed.—*F. Hal Higgins.*

HOME-MADE HYDROCOOLER

Maryland's Glime brothers pre-cool their sweet corn on the farm

NORMAN and James Glime, of Federalsburg, Md., grow and market 100 to 200 acres of top-quality sweet corn each year. The corn is picked fast—a home-made, 6-row, tractor-mounted corn harvesting conveyor speeds the job—and the field heat is removed in a hydrocooler that they pieced together from odds and ends of second-hand materials. Packed into crates less than an hour after picking, it is hauled to Baltimore or Washington markets under ice in an insulated truck.—*Andrew A. Duncan, U. of Maryland.*

This shed houses the Glime brothers' home-made hydrocooler. Sweet corn is unloaded from field carts (right) and placed in a single layer on conveyor belt. It moves slowly through 60-foot tank filled with recirculated water from sprinklers. The entire line is electrically operated; water is cooled by a refrigeration machine.

Ice water from overhead pipes removes field heat from corn as it travels through the tank.

Every ear of corn is examined as it leaves the hydrocooler. The number of ears damaged by worms this year averaged one per thousand.

KEEPING RECORDS—ON THE GO!

Keeping spray records "on the go" is easy with this spray record holder made by Dick Smith, Gould Hill Farm, Contoocook, N.H. He mounted a spray score pad and tally counter on a wooden support and protected it with a hinged wooden cover with a glass top. He then bolted the record holder to the tractor fender. As he sprays, he jots down the spray loads on the tally. When the job is completed, he transfers this data into the permanent spray records in his office. No danger of forgetting here!—*Charles L. Stratton.*

POTTENGERS

(*Continued from page* 19)

July, which results in continuous harvest from about July 1 until mid-October.

In 1954 the Pottengers installed an irrigation system. During the past three seasons it has returned a high rate of interest in the form of increased corn yields. Last year irrigation started in June and was used until the middle of September to bring a continuous high yield of over 12,000 ears per acre. Without the added water, this rate of production could not have been maintained.

Water for over half the corn acreage is pumped from the Miami River and for the remainder from a shallow well only 15 feet deep. The same pump is used at both locations, a 500 gpm pump made by Construction Machinery Company and powered by a 50 h.p. Chrysler industrial motor. Fuel cost runs about $1.00 per acre.

The system was set up to water 40 acres per week. This is accomplished by the use of 1000 feet of 6-inch main pipe (Alcoa aluminum) and 3400 feet of four- and five-inch lateral aluminum pipe. In operation at one time are 25 Rain Bird sprinklers, each of 20 gpm capacity. Each application is of 1¼ inches of water. Not only has water improved yields of corn, but the Pottengers feel that it improves eating quality in dry seasons.

A theme is quite noticeable throughout the entire production program on the Pottenger farms. It is this: They plan for a good stand of healthy plants per acre, then care for those plants so that each matures at least one ear of corn for market. Careful management has brought them successfully to their goal. THE END.

TOMATO HARVESTER

California researchers study mechanical tomato harvesting

By **COBY LORENZEN**
University of California

Tomato harvester developed at U. of California.

THE shortage of hand labor is an ever increasing problem to tomato growers. Researchers at the agricultural experiment station on the Davis campus of the University of California have been studying the problem of harvesting tomatoes mechanically. A successful, complete tomato harvester is still far from actual accomplishment, but we feel we are moving toward the goal.

A most important consideration in developing a harvester is, of course, the product to be harvested—particularly its physical properties as they concern mechanical handling. The progress that has been made is largely due to the work of a plant breeder, who is developing a plant much more suitable to mechanization than is the present commercial variety. He is working with a strain of pear-type tomato that is used for concentrate, puree, paste, etc. At present we are limiting the project to harvesting this type of tomato. Consideration of the round type of tomato must await the successful handling of the pear type.

As visualized in its final form, the harvesting is a "once through" process, with the machine performing four principal operations—cutting the root system, lifting the vine, separating the tomatoes from the vine, and conveying the fruit to a container.

The present type of plant lends itself very well to the first operation, cutting the root system. At harvesttime the main stem is very tough above the ground, but just beneath the ground surface is moist enough to be cut by a single, fixed knife mounted at either end on standards attached directly to the machine. The knife is set at the proper angle to hold it in the ground, and the standards are shielded to prevent their dragging the vine along the row.

The second operation—lifting the vine—has necessarily been altered as the plant character changed with the continuing breeding program. Several lifting devices have been studied, including an overdriven central chain on which were mounted spring fingers that moved backward and downward to engage the branches of the vine and lift it about a sprocket at the rear of the machine. This performed very well with vines that were separated from each other. But the present vines are interwoven at harvest time, requiring treatment as a continuous row. Therefore, the present pickup device consists of matching right and left fingers mounted on a pair of chains that feed into the vines from the sides of the row.

Several possible solutions to the third operation — separating fruit from vine—have been and are being studied. Among these are: 1) a shaking device; 2) a means for accelerating fruit and vine and then suddenly stopping the vine; 3) centrifugal force, and 4) covering the vine with a raking action.

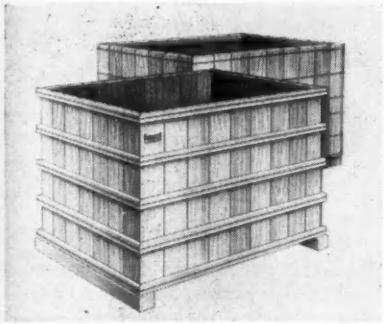
Most of these systems require a transfer of vine from pickup element to separation element. The present work aims at eliminating this transfer, or at least reducing its importance in the general operation. The first might be done by shaking the pickup element itself; the second would involve putting the vine in such a position with the pickup fingers that transfer would be a simple matter.

The fourth operation—conveying the fruit to a container—has not yet been dealt with. It should prove the least difficult of the operations, though space requirements in the machine as a whole must be considered. The plant breeder considers resistance to mechanical damage an important factor in his work, but nevertheless the conveying device must be capable of handling the fruit carefully. The fruit should be subjected to only low accelerations, and few transfers and changes of direction. Sufficient capacity is important since the machine should handle about 50 tons of tomatoes in a 10-hour day.

Continued work should in time produce a practical device that will enable the grower to harvest his tomato crop mechanically. THE END.

NEW FOR YOU

—to increase your profits



Profit-Designed Boxes

Many growers have given a lot of thought to cutting the cost of handling their vegetables. The use of lift trucks and conveyors has helped, still the use of laborsaving equipment depends on a box for handling bulk vegetables. A wirebound pallet box is now available and it has met the tests of growers. Mass-produced, the new box is inexpensive and immediately available. The boxes are being used on farms for handling 500 to 2000 pounds of fresh vegetables in harvesting, storing, processing, or shipping. Several models and sizes are made ranging from a heavy-duty pallet box with outside cleats to a lighter 500-pound box and even a low-cost, expendable, one-time shipper where the return of the box is not feasible. All of our readers concerned with lowering harvesting costs should write Bob Ornberg, General Box Company, Des Plaines, Ill.

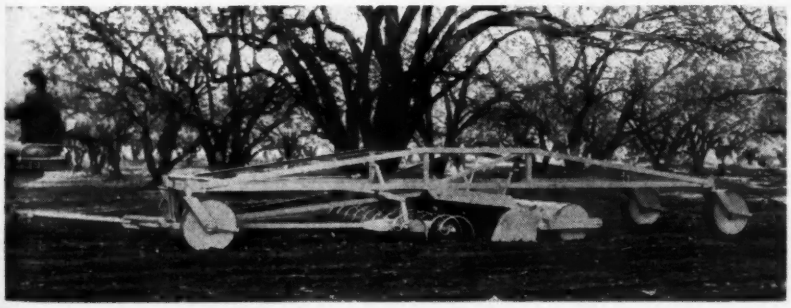
Rotomator

Tomato growers have three main problems in packing tomatoes—packing the ripe ones immediately, pulling the semi-ripe to one side, and putting the green ones back in the ripening sheds. The Rotomator handles all three operations, and can be operated by one girl. She can quickly make a fast selection of good matching tomatoes and pack four tubes a minute. By adding one operator, the number of packed tomatoes can be increased rapidly. The machine is ruggedly constructed, and for the wonderful

job it does, is priced most reasonably. If you grow tomatoes, you'll want to investigate this machine. It's easy. Just write Reg Kiefer, The Trescott Company, Fairport, N.Y.

Landplane Profits

Perhaps the best way to increase profits is to increase vegetable yields. A sure-fire way to increase production is to level your land, whether it be one acre or 1000 acres. This expensive chore can now be done quickly, easily, and economically. Scientific leveling means better moisture penetration, uniform crop growth, and reduced irrigation costs. A new, wonderful machine does the whole job and it is priced to meet your budget. Why not write Marvin Landplane Company, P. O. Box 209XX, Woodland, Calif., for details?



Grinds or Shreds

Several growers are using a new grinder which they tell me pays for itself in one season. The machine hastens composting — grinds leaves for mulch—mixes compost or fertilizer with soil, and makes ideal potting soil or top-dressing. The machine has interchangeable rollers and grinding screen so that the growers can reduce anything to the desired texture. The machine is priced low, and can be bought with or without an engine. The same company makes larger machines to fit any job. Why not write for details? Address your card or letter to W-W Grinder Corp., Dept. VG, Wichita, Kans.

Cool Profits

Growers everywhere are learning the spectacular advantages of hydrocooling. This process insures better quality and taste. Hydrocooled vegetables demand higher profits in the market place, and hydrocooling equipment is now within the reach of all progressive, profit-minded vegetable growers. One of the pioneers of hydrocooling equipment is now making a machine ideal for your vegetable operation. After six years of field testing, Clarksville machines represent trouble-free units. Why not get full particulars on hydrocooling and Clarksville machines? Just write Jack Cline, Clarksville Machine Works, Clarksville, Ark.

What Keeps Machinery *Running?*

MECHANIZATION, to the vegetable grower, means saving time and saving labor.

Yet as any grower will testify, no machine will run indefinitely without maintenance. It's possible to lose many valuable man-hours waiting for machinery that has broken down because of poor maintenance. When the price you get for your vegetable crop depends on timely harvesting, a delay of a few hours can be terribly costly.

Because good maintenance is so important, we asked large and small growers what they consider the most important factors in keeping their machinery in top running condition. Is daily inspection essential? Do you need a farm repair shop? How important is the skill of the operator? What about storage of the equipment?

Preventive maintenance is the thing to strive for, says J. D. Swan, Jr., of Delavan, Wis. You do this by daily inspections, regular lubrications according to manufacturer's instructions, correction of minor troubles before they become serious, and an annual overhaul of equipment.

A farm shop is handy if you have enough equipment to warrant it, says Swan. Otherwise, establish contact with a good custom repair shop.

From Columbus, Ohio where his sweet corn is well-known for quality, Arthur L. Smith says that upkeep of equipment is a combination of several factors. Most important, he says, is the operator of the equipment.

"Men who take pride in their work and enjoy seeing their machine turn out a good job will see to it that the oil is changed and the greasing done on schedule," says Smith.

"It is our policy that the man that uses the equipment takes care of it," says Darryl Zellers, of K. W. Zellers & Sons, Hartville, Ohio. When a major repair is needed, he takes the machine to his dealer for repairs, and uses the winter months to paint equipment and replace broken parts.

Walter S. Hopkins, Jr. of Reading, Mass., believes that the operator's skill is very important.

"My operators are all men who take pride in keeping the equipment going and assume the responsibility for keeping it in good condition to do a good job," says Hopkins. "The equipment is checked daily and it is well-housed."

"Employing high-type men is true economy," adds potato grower Leon Epler of Northumberland, Pa. He stresses allowing ample time for employees to service and inspect machinery, and urges operation and care of each piece of equipment by one person exclusively, if possible.

Florida grower Louis Rauth, of Delray Beach, agrees that a good driver can keep his machine in working condition and can tell when the equipment will need major repairs before it breaks down.

He maintains that major repairs should be done only by an authorized dealer, not by the farm mechanic.

Lee Towson, Jr., of Seabrook Farms, Bridgeton, N.J., urges that machinery be put into operating condition before it is needed—during the winter months. Major repairs should be done by a regular mechanic or under the supervision of the dealer, and regular maintenance practiced during the season.

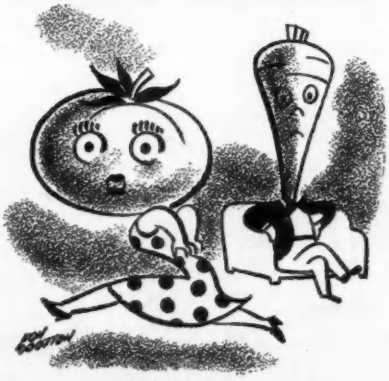
"An employee who does not realize this should be terminated," he feels.

John Powell, of Kokomo, Ind., brings out the important fact that with the universal use of fertilizers much care must be given to bearings and moving parts to keep them well-protected with grease and oil.

"I am sold on a good preventive maintenance program as the best means of keeping farm machinery on the move and in top operating condition. A periodic and systematic inspection, adjustment, and maintenance program should be designed to *prevent* failure rather than repair after failure," adds Earnest Munter of Gehring Farms, Rensselaer, Ind.

There you have it! This is what growers think is necessary for proper equipment maintenance. The human element tops the list—these growers know that a machine is only as good as the man running it.

VEGETABLE CONVENTION



"Ouch! Flea beetle!"

Peas in Her Apron

THE housewife who sat on the porch and shelled peas in her apron has been displaced by the efficiency-minded homemaker who'd rather buy her peas already shelled—either frozen or canned.

A plant breeder who has spent much time studying consumer preferences in peas and varieties, Dr. Donald W. Barton, of Cornell University, comes to the conclusion that "the housewife doesn't like to shell peas, and with an abundance of high-quality frozen and canned peas at a lower cost there is a decreasing demand for fresh peas.

"This has changed things on farms where peas are grown for market, and has also changed the objectives of plant breeders who are trying to provide better and more productive varieties for freezing and canning and for the very exacting baby food industry," he continues.

Acreage figures show that growers are obeying the wishes of Mrs. Housewife in this pea business. In 1939 over 100,000 acres were planted to peas for the fresh market. By 1954 all the fresh peas that she'd agree to shell were grown on 7,000 acres.

At the same time acreage planted to peas for freezing increased from 27,000 to a whooping 102,000 acres.

While congratulating the industry on its forward attitude in this pea business, we still nurture the hope that some growers somewhere (and they need not be many) will continue to plant a few acres of fresh-market peas.

Coming Next Month

- The Water Route to Modern Potato Handling
- Harold Rogers Grows His Own Strain of Blue Hubbard Squash
- Recommended Temperatures and Humidity for Storing Vegetables
- Preview of National Vegetable Convention
- Vegetable Areas of America—Maine

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